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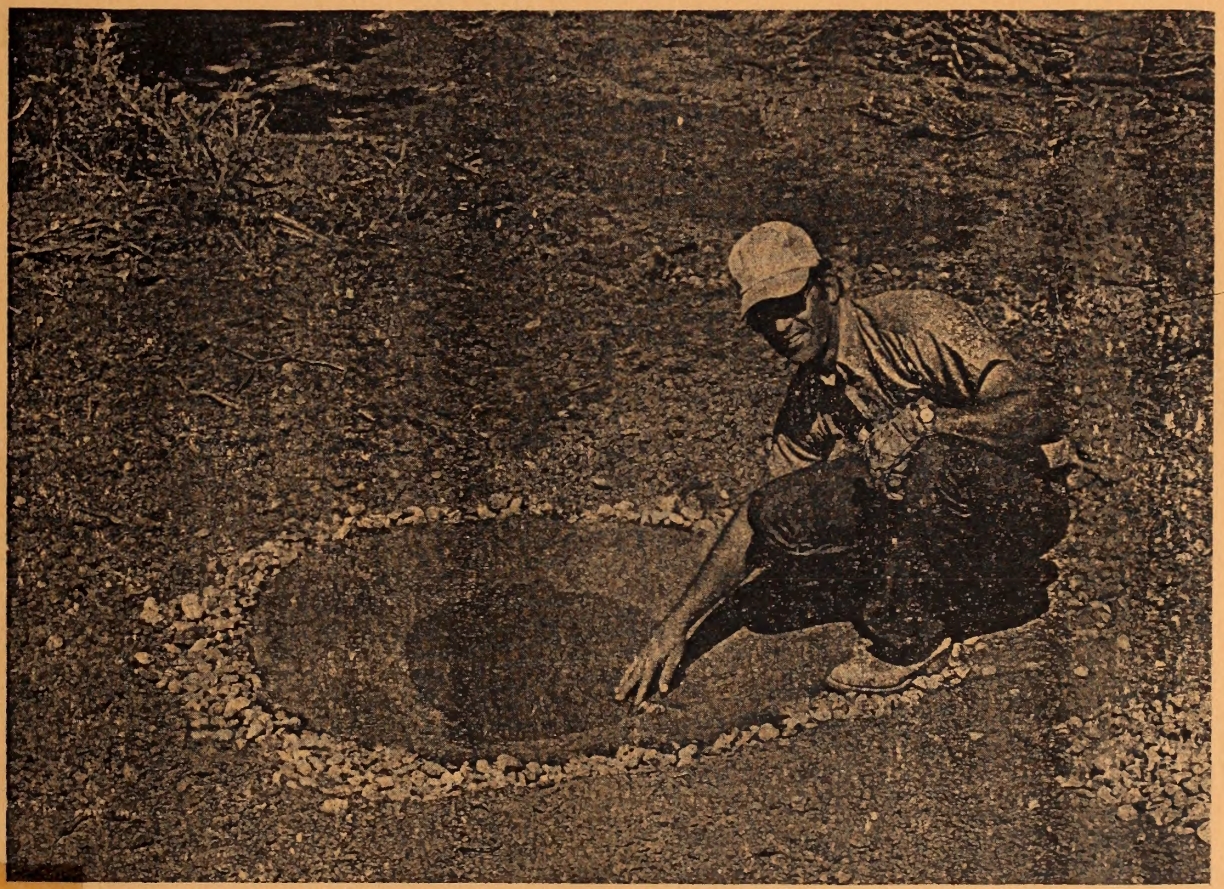
TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

WILDLIFE WATER BASINS

Willis M. Bird, Jr., Wildlife Biologist
Farmington Resource Area Headquarters
Farmington, New Mexico



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Additional copies of Technical Notes are available from DSC, Federal Center Building 50, Denver, Colo., 80225

Form 1220–5
(January 1974)

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I. INTRODUCTION

Water in the Southwest is normally a problem for most species of wildlife. Springs that have been developed for livestock waters will provide water for larger animals, such as mule deer, elk, fox, or coyote; however, the smaller animals usually don't benefit from this water because the drinking trough is too high off the ground for them to use.

II. BACKGROUND

The San Juan Planning Unit in the Farmington Resource Area, in northwestern New Mexico, is made up of some 1 million acres of national resource lands with about 75% being good to excellent wildlife habitat. Most of the available water for wildlife in this area is supplied by lakes, rivers, earthen reservoirs, or springs. Even with this, there are still large areas which remain without suitable water. Precipitation ranges from 8" to 14" annually. Several thousand acres of NRL have been treated to produce additional forage and browse. Water has been the main limiting factor in development of wildlife habitat.

III. DESCRIPTION

Five springs that have been developed for livestock water were also designed to provide water for wildlife. Overflow pipes were installed on the livestock drinking troughs at the time they were placed. A site was selected 50 to 300 feet down-slope from the livestock troughs and the overflow pipes were extended from the troughs to the sites chosen for the wildlife water basins. A small concrete basin was then constructed at the end of the overflow pipes. After the construction of the pipelines and concrete basins, the disturbed areas were cleaned up and reseeded. A 100' x 100' three-strand fence (two strands barbed and the bottom strand smooth) was then constructed around the wildlife water basins to protect them from damage by livestock. All of the work was done by the Wildlife Biologist and two temporary employees. A back hoe, with operator, was hired to dig the ditches for the pipelines and to cover them. The drinking trough specification drawings are shown on Illustration I. The drawings for the overflow pipes and wildlife water basins are shown on Illustration 2. Fence Specifications should be as indicated in item IV.3.e.

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IV. SPECIFICATIONS

1. Site Preparation - The site for the drinking basin will be located down-slope from the drinking trough. The overflow pipe will be installed so the pipe will be at ground level at the site for the drinking basin.

2. Materials - All material, i.e., concrete, gravel, pipe, and fittings shall meet the specific requirements as outlined on the design drawings. All materials shall be supplied by the government.

3. Construction -

   a. The ground shall be leveled at the site of the wildlife drinking basin so the lowest edge of the basin is higher than the ground level.

   b. A section of steel pipe 16" long shall be attached to the end of the plastic overflow pipe with a 1¼" steel to plastic adaptor so the end of the steel pipe is positioned at the desired location on the edge of the depression to be dug for the drinking basin.

   c. A depression shall be dug at the inlet pipe large enough to accommodate one layer of gravel 1½" to 2" diameter and three bags of redi-mix concrete poured 2" thick, leaving a basin 28"-30" diameter and 6"-8" deep. The concrete should also cover the steel pipe on the lip of the drinking basin.

   d. The down-slope side of the drinking basin will be lower than the inlet pipe so the water will not be forced back into the pipe.

   e. A fence 100' x 100' shall be constructed around the drinking basin according to Antelope Range Fence, Type I - Cattle, BLM Manual 1737, Illustration 3, Release 1-972.

   f. Some type of cover for small birds and mammals (dead brush, etc.) should be placed near the water basin to provide some protection from predation for small wildlife using the water (unless natural cover is present within about 6 feet).

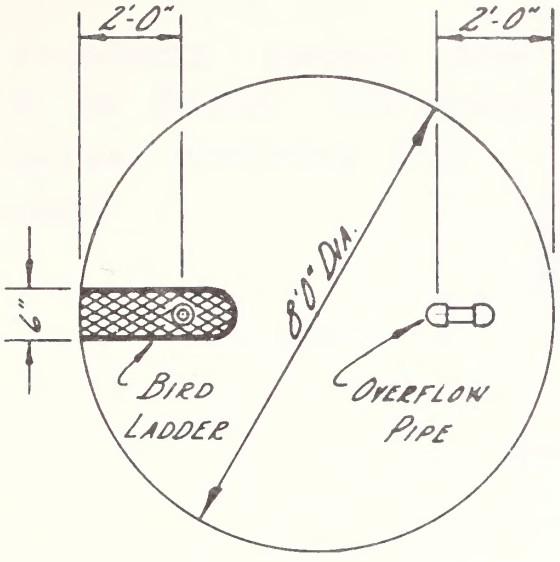
V. SUMMARY

In many areas of the arid to semi-arid Southwest, water is essential for wildlife. This is only one method that could be used to create better habitat for wildlife. The cost breakdown for one wildlife water basin includes:

Equipment rental	$100.00
3-60 pound bags Redi-Mix	10.00
130' pipeline with fittings	30.00
Fencing (400')	90.00
Total Cost	$230.00

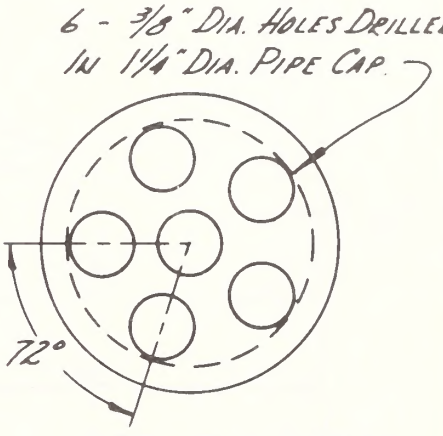
This is based on an average of five wildlife water basins that were constructed in the Farmington Resource Area. The cost would increase considerably if the total project were contracted.

ILLUSTRATION 1

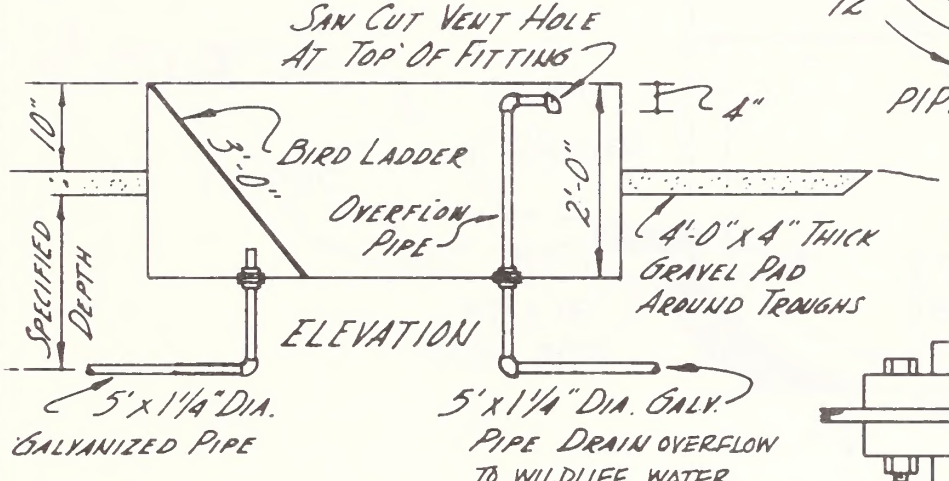


PLAN

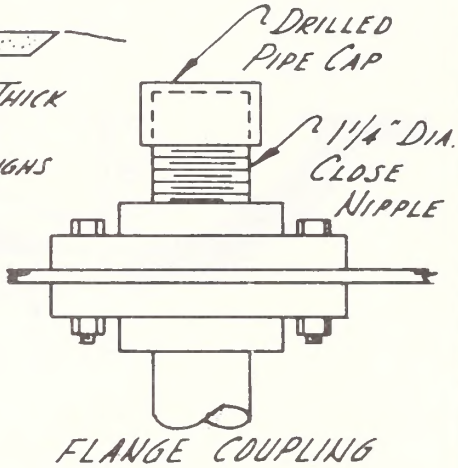
NOTE: BIRD LADDER 1/2" GALVANIZED ROD OR PIPE, BOLT OR SCREW 1/2" GALVANIZED HARDWARE CLOTH TO FRAME. BOLT TO EDGE OF TROUGH WITH 5/16" DIA. GALVANIZED BOLTS 2 EACH.



PIPE CAP DETAIL



ELEVATION



FLANGE COUPLING

BILL OF MATERIALS

SIZE	AMOUNT	DESCRIPTION
8'-0"	1 EA.	GALV. DRINKING TROUGH 20 GAGE 2'-0" DEEP
1 1/4"	2 EA.	1'-4" LONG GALV. PIPE
1 1/4"	1 EA.	1'-8" LONG GALV. PIPE
1 1/4"	1 EA.	PIPE CAP (SEE DETAILS)
1 1/4"	2 EA.	FLANGE COUPLING (GALV.)
1 1/4"	2 EA.	CLOSE NIPPLE
1 1/4"	4 EA.	90° GALV. ELBOWS
1 1/4"	2 EA.	5'-0" LONG GALV. PIPE
1 1/4"	2 EA.	STEEL TO PLASTIC PIPE ADAPTER
AS DETAILED	1 EA.	BIRD LADDER
AS DETAILED	2 CU. YDS.	GRAVEL

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DRINKING TROUGH DETAILS

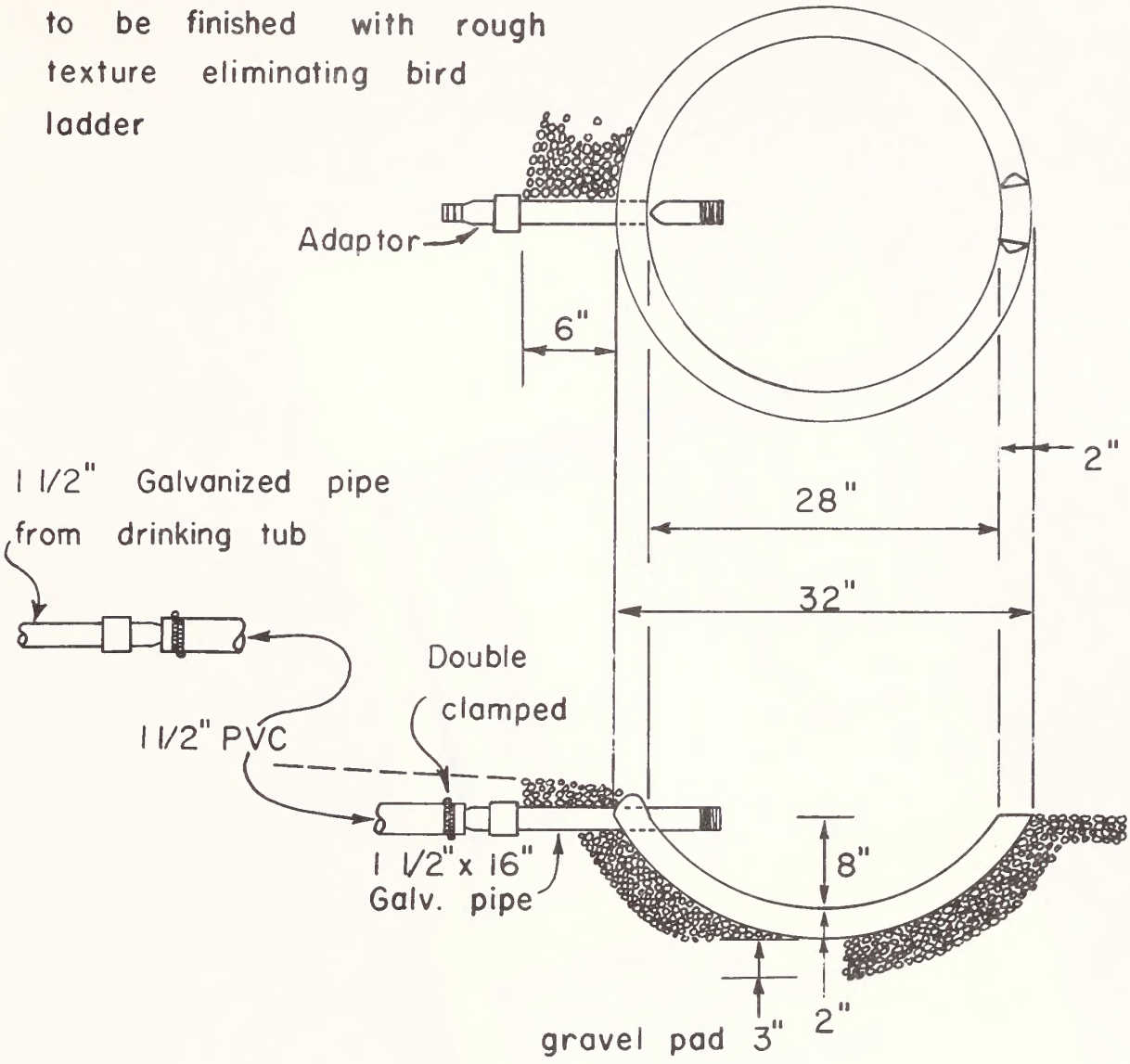
DESIGNED	RECOMM. H.E. PAYNE, JR.
DRAWN mi	RECOMM. ACTING CHIEF, DIV. TECH. SERVICES
CHECKED H.E.P.	APPROVED STATE DIRECTOR
SCALE NONE	
DATE 3-13-73	SHEET 5 OF 6
DRAWING NO. 30-01-9113.3-11	

0°10.5

☆ GPO 850-178

ILLUSTRATION 2

Unreinforced concrete basin to be finished with rough texture eliminating bird ladder



BILL OF MATERIALS

Size	Amount	Description
1 1/2" x 16"	1	Galvanized pipe
1 1/2"	2	Steel to plastic adaptors
	4	Stainless steel clamps
60 lb.	3	Sacks Ready Mix
As detailed		1/2 cu. yd. gravel

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WILDLIFE WATER BASIN DETAILS

DESIGNED WB	RECOMM.
DRAWN LC	RECOMM. CHIEF, DIV. OF ENG.
CHECKED	APPROVED
SCALE AS SHOWN	
DATE 10 - 10 - 76	SHEET 1 OF 1
DRAWING NO.	

☆ GPO 858-285

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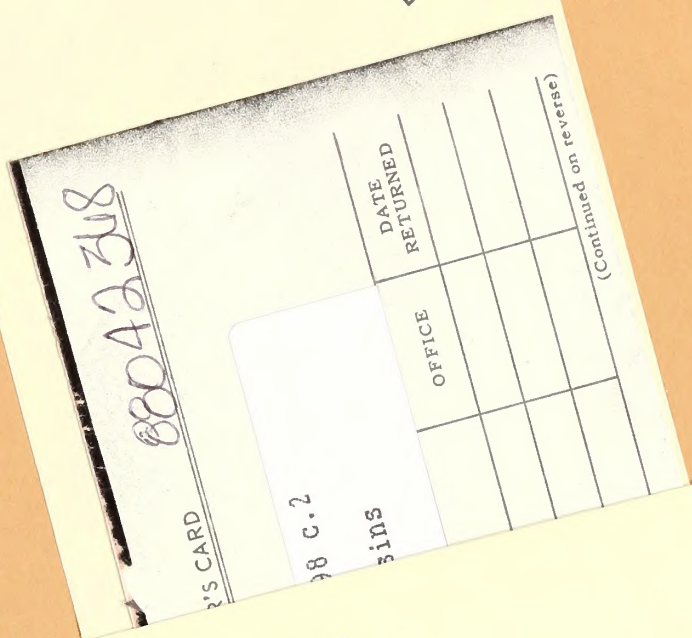

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Wildlife water basins